Work Planning and Control Effectiveness Review Statement of Work

Problem/Issue Summary:

In October 2005, Laboratory management commissioned a comprehensive review/gap analysis of implementation of ISM across the BNL complex. The review identified several shortcomings and omissions in the implementation of work planning and control. The shortcomings and omissions included the following:

- The Laboratory work planning and control processes allow a significant amount of work to be identified as "skill of the worker" without having adequate mechanisms to assure that individuals relied upon to make key decisions are competent commensurate with their responsibilities. The present Laboratory process too easily allows Work Control Managers or Coordinators to characterize the work as "skill of the worker."
- Management has not assured that adequate hazard analyses for "skill of the worker" activities have been performed and the results communicated to those workers performing the tasks. The Work Planning and Control (WP&C) subject area allows a requestor or work control manager/coordinator to screen out the need for a work permit without first analyzing the hazards of the proposed scope, its complexity and the coordination required for execution.

Summary of Corrective Actions:

To address the short comings and omissions described above, the Laboratory identified a set of corrective actions to address skill of the worker concerns and issues, and activities that integrate human performance factors principles into day-to-day work activities performed across the BNL complex. Below is a detailed description of actions taken to address the underlying causes.

I. Create a Culture of "All Work is Planned" and Develop Supporting Procedures and Methodologies (WBS 2.1.2)

The following actions will reverse the bias toward skill of the worker and drive a culture where all work is planned using a graded approach. The principal action here is developing methodologies to bridge the gap between "skill of the worker" and the Work Permit process. It will involve adding some formality to the present informal, undocumented work screening and planning processes that are used in many areas of BNL.

- Define and Implement a "Worker Planned Work" process (i.e. re-define and enhance skill of the worker determinations) that:
  - Clarifies when "Worker Planned Work processes" may be used in lieu of a formal work permit (i.e. work planning methodologies to bridge the gap between skill of the worker and the formal Work Permit.
  - Integrates hazard-analysis requirements into worker planned work determinations.
  - Includes a methodology for communicating hazards to workers for worker planned work jobs.
- Evaluate the quality of job risk assessments based on their impact on worker planned work and institutional risk. Revise/Update JRAs as appropriate.
- Develop a process to fully integrate JRAs and FRAs into the WP&C Process.
- Improve processes for hazard analysis and mitigation where there are multiple interacting hazards, e.g. multi-craft jobs.
- Integrate Lessons-Learned data into all Work Planning & Control processes.
- Develop requirements for considering multiple hazards and their interaction.

II. Integrate Human Performance Factors Principles into the Work Planning & Control Management System (WBS 2.1.7)

Several of the Laboratory's Senior Managers were trained in the principles of Human Performance. Their reaction was very positive; they viewed these principles as being very powerful tools. This CA will develop a process to integrate these principles into the Laboratory's WP&C processes; a short-term and a longer term approach are being contemplated. The former approach is intended to achieve measurable results as rapidly as possible.

- Integrate the "Four Key Questions" into the process of Pre-Job Briefing.
- Develop an approach to include error precursors in the hazards analysis process.
- Develop and provide the Management System Steward with longer term recommendations for a more comprehensive integration process to the Management System Steward.

Scope of Work:

The effectiveness review will be conducted in accordance with the EFCOG Guide, "*Contractor Guide For Performance of Effectiveness Reviews"*, March 20, 2006. Implementation of the EFCOG Guide will be accomplished using the "*Corrective Action Verification Criteria*" developed by McCallum-Turner, Inc. described below.

In determining the effectiveness of the actions taken, the BNL ISM Project Manager commissioned an effectiveness review to be performed the week of August 11, 2008. The review is designed to determine the effectiveness of corrective actions in resolving or preventing recurrence of the findings discussed above. The effectiveness will be measured using the following verification criteria:

1. Appropriateness of corrective action
2. Implementation effectiveness
3. Performance improvement
4. Follow-up/Assurance

For each corrective action evaluated, each corrective action will be examined for applicability and then applied. The extent to which the corrective action satisfies an individual criterion will be based on the following rating system:

Green - corrective action process generally satisfies applicable elements of the criterion

Yellow – corrective action process partially satisfies applicable elements of the criterion

Red – Corrective action process does not satisfy major applicable elements of the criterion or only satisfies applicable criterion elements to a very limited extent.

The team leader will lead an independent team from of subject mater experts from BNL, BNL Independent Audit and Oversight, BHSO, and other Battelle operated Laboratories.

The team leader will have a one-day planning meeting at BNL to meet with BNL and BHSO personnel to establish expectations and specific areas of scope for the effectiveness review.

The team leader will coordinate regularly scheduled meetings and conference calls with the team members, both offsite and onsite, to provide assignments, guidance and direction to accomplish the scope of the effectiveness review. A representative of BNL will participate in team member meetings.

The team members will develop specific lines of inquiry and will identify, in concert with BNL, a list of necessary documents and interviewees.

The team leader will develop a report template/outline, and in-briefing and out-briefing templates prior to the onsite effectiveness review. BNL will review and approve the templates prior to use.

The team leader and members will conduct an in-briefing at BNL at the start of the on-site effectiveness review to review the scope of the review and introduce the team members to BNL and BHSO.

The team leader and members will conduct an out-briefing at BNL at the end of the on-site effectiveness review to review the preliminary results with BNL and BHSO.

The team leader and members will prepare a factual accuracy draft report, address BNL comments and prepare final report to conclude the effectiveness review.

Team

BNL has requested that Robert McCallum of McCallum-Turner, Inc. provide support to the planning and execution of this effectiveness review of the BNL's Work Planning and Control System enhancements, which includes serving as the Team Leader for the review. McCallum-Turner, Inc. personnel have conducted several independent reviews of BNL Work Planning and Control Systems – including a review of the BNL Integrated Safety Management Program in the fall of 2005 and follow up review in the fall of 2006.

The following people are potential team members and their participation may be requested:

Robert McCallum – McCallum & Turner, Inc
Joseph Cracco – DOE BHSO
Edward Grove – BNL, IA&O
Adrian McCall – Pacific Northwest National Laboratory

Schedule

The following schedule is provided to begin planning the effectiveness review. Any changes to the schedule require approval from BNL.

- Acquire/Review Key Background Documents — NLT mid-July, 2008
- Identify Candidate Interviews — NLT mid-July, 2008
- Establish Lines of Inquiry for Review — NLT end of July, 2008
- Establish Report Template — NLT end of July, 2008
- Provide In-Briefing — August 11, 2008
- Conduct On-Site Activities — Week of August 11, 2008
- Provide Out-Briefing — August 15, 2008
- Develop Factual Accuracy Report — August 29, 2008
- Provide Final Report — One week after comments provided